Print

FINANCE

A would-be tie-coon

A Baton Rouge inventor is getting good reviews for his composite railroad ties, but few investors.

By **Steve Clark** , *Business Report staff*

Posted: 07.19.05 - 03:07 PM ⋮ PRINT VERSION ⋮ EMAIL TO A FRIEND

WEB EXCLUSIVE ⋮ WEB ENHANCED ⋮ PRINT EDITION

John Bayer's composite railroad ties are good enough for the New Orleans Regional Transit Authority but apparently not for Louisiana investors.

Bayer, a Baton Rouge welding shop owner who spent years perfecting cross ties made from recycled plastic and waste gypsum, has tried in vain to find an investor to help build the $3.5 million plant he needs to supply the market.

Railroads and transit authorities are looking for alternatives to the creosote-soaked wooden ties long used to build rail lines. Creosote, a wood preservative that is harmful to health, has been banned by the federal government for everything but railroad ties. The problem rail operators have is disposing of the ties when they have to be replaced.

CONTINUED BELOW

So large and small lines are looking for alternatives, and plastic could be the answer. Besides their environmental friendliness, thermoplastic railroad ties typically last longer than wooden ones. Bayer says his TuffTies, a combination of recycled plastic and waste gypsum produced by a company he founded called PolySum, have a service life of 50 years.

No plastic railroad tie has been in service that long, though Bayer's TuffTies, which he patented in the United States and Australia, have been tested at several sites in Louisiana and around the country. The St. Charles historic streetcar and riverfront rail lines, both part of the New Orleans Regional Transit Authority system, are using TuffTies.

Eddy Moore, RTA's director of maintenance, says Bayer's ties have shown no wear or corrosion in the five years since being installed. Of the three different manufacturers' plastic ties the authority has tested, PolySum's stand out, Moore

says. One reason is they contain no metal--unlike plastic tie-makers Iron Horse, a New Jersey firm, and TieTek of Houston.

That's important to the RTA, since electrified transportation like streetcars will shoot stray current through ties containing metal, which damages underground infrastructure. Also, as the Chicago Transit Authority found out the hard way, stray electricity can eat the fasteners securing the rail to the tie--not good.

Moore calls Bayer's product "a maintenance dream" because it's resistant to fungus. The RTA thought it had found a suitable replacement for creosote ties: an extremely hard West African wood called azobe. However, they found a fungus that thrives in the New Orleans climate transforms azobe into something resembling a "brittle cracker," Moore says.

The RTA tried replacing them with coated oak ties, but it was simply a lunch invitation for termites. The coating doesn't even slow them down, Moore says.

"We plan to do a lot more with plastic," he adds.

Moore says the RTA has a federal grant to replace all the azobe, the first phase of which will entail the replacement of about 5,000 ties. There are around 40,000 azobe ties in the RTA system. Moore says his department plans to propose another federal grant sometime next year to extend the riverfront line, either to Audubon Park or a new ship terminal. The RTA is also looking at a light rail line from the New Orleans airport to the Central Business District.

The RTA wants to use plastic ties on all of it, though PolySum won't be bidding on any of it.

"Everybody wants ties," Bayer says. "I say I'd like to sell you ties, but I don't have a plant, so what's the use?"

Bayer, who has been acting as a consultant for Iron Horse in its dealings with the RTA, says he and a group of investors have spent $750,000 trying to get PolySum to a full-scale production mode.

He says the focus now is turning to licensing TuffTies technology. He and David Schurtz, a Fort Worth attorney who owns 82% of PolySum, have been in contact with a group in Australia that has expressed interest in making TuffTies under a licensing agreement, though nothing has been agreed to.

Bayer says some investors may have been scared off because they anticipated getting too little early return for the level of startup capital required.

"So maybe there is a learning curve, but in three or four years they're going to flood you with orders," Bayer says. "So you make your million ties at first and make a little money. Three years later you make 200 million ties."

He says something like 800 million railroad ties are on the ground in the United States today and that 12 million to 15 million get replaced every year.

Richard Lampo, a construction engineering researcher with the U.S. Army Corps of Engineers and a top expert on composite railroad tie technology, says the market for such products is potentially huge.

But creosote-soaked wood still dominates 95% of the replacement market, he points out. The reason is a simple matter of economics for large railroads: Wooden ties typically sell for $35 to $45 a piece. Bayer says his TuffTies would cost about $85 a piece. Notwithstanding the fact that plastic ties last a lot longer than wood (which may survive for about 30 years, depending on soil and climate), railroads are fixated on short-term costs, Lampo says.

"Probably one of the biggest barriers right now is cost," Lampo says.

He adds that the composite tie industry is "inching forward." While it's doubtful any company making them right now has

made any money yet, he adds, that doesn't mean the market won't eventually take off. The Federal Railroad Administration, meanwhile, is funding Lampo's work with the Corps of Engineers to study safe composite alternatives to wooden ties.

"It possibly could really go places," Lampo says. "The FRA wouldn't be supporting my work if there wasn't an interest by the railroads in this technology and these issues."

BACK TO TOP